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Indian Standard

SPECIFICATION FOR GLASS WEIGHING BOTTLES

(First Revision)

UDC 542 231.2 : 666.171.8 : 531.753

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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

November 1980

AMENDMENT NO. 1 JULY 2007
TO
IS 1574 : 1980 SPECIFICATION FOR GLASS WEIGHING BOTTLES

(First Revision)

(Page 4, *clause* **4.2.1)** — Substitute the following for the existing clause:

'**4.2.1** *Limit of Alkalinity* — When graded according to the method prescribed in IS 2303 (Part 1/Sec 1) : 1994*, the glass of weighing bottles shall conform to Class HGB 3.'

(Page 4, *footnote marked* *) — Substitute the following for the existing:

'*Grading glass for alkalinity : Part I Hydrolytic resistance, Section I Hydrolytic resistance of glass grains at 98 °C – Method of test and classification *(first revision)*.

(Page 6, *clause* **5.2.1)** — Substitute the following for the existing clause:

'**5.2.1** *BIS Certification Mark*

The packages containing weighing bottles may also be marked with the Standard Mark.

5.2.1.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act,* 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.'

(CHD 10)

Reprography Unit, BIS, New Delhi, India

Indian Standard

SPECIFICATION FOR GLASS WEIGHING BOTTLES

(*First Revision*)

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(*Continued on page 2*)

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Indian Standard

SPECIFICATION FOR GLASS WEIGHING BOTTLES

(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 20 August 1980, after the draft finalized by the Laboratoyware and Related Apparatus Sectional Committee had been approved by the Chemical Division Council.

0.2 This standard was first published in 1960. With the development of new standards on non-destructive method of test for grading glass for alkalinity and methods for thermal shock tests, the Committee responsible for the preparation of the standard decided to revise it with a view to up-dating it. In this revision two grades of weighing bottles have been prescribed, providing for interchangeable leak-proof stopper for Grade 1 weighing bottles.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and methods of sampling and test for glass weighing bottles for general use in laboratories.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS: 1382-1961† shall apply.

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*Rules for rounding off numerical values (*revised*).

†Glossary of terms relating to glass industry.

3. TYPE AND GRADES

3.1 Types — The weighing bottles shall be of two types, namely, 'squat' and ' tall '.

3.2 Grades — There shall be two grades of weighing bottles as follows:

Grade 1 — provided with interchangeable leak-proof stopper, and

Grade 2 — not provided with interchangeable stopper.

4. REQUIREMENTS

4.1 Patterns — The patterns of weighing bottles of 'squat' and 'tall' types shall be as shown in Fig. 1 and 2 respectively.

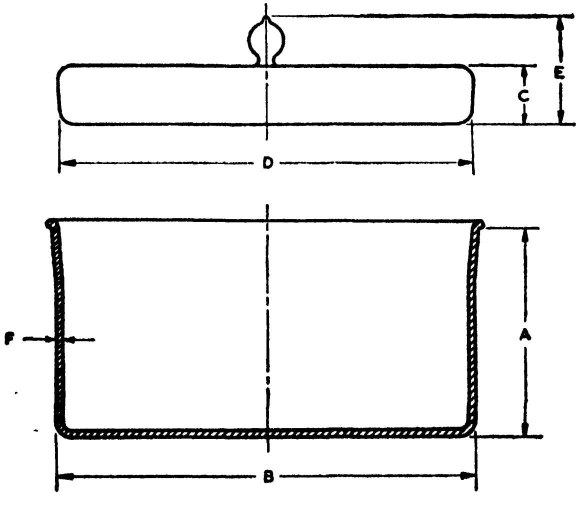

FIG. 1 WEIGHING BOTTLES (SQUAT)

4.2 Material — Weighing bottles shall be made of transparent glass not having any pronounced tint. They shall be as free as possible from bubbles, striae cords and other visual defects and shall be reasonably free from internal strain.

4.2.1 *Limit of Alkalinity* — When tested in accordance with the method prescribed in **3** of IS : 2303-1963*, the glass of weighing bottles shall conform to type 'ND'.

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*Method of grading glass for alkalinity.

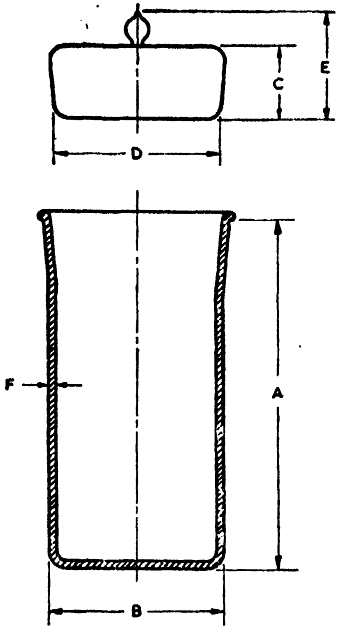

FIG. 2 WEIGHING BOTTLES (TALL)

4.2.2 *Resistance to Thermal Shock* — When tested in accordance with Method B of IS : 6506-1972*, weighing bottles shall withstand thermal shock created by a temperature differential of 120 ±1°C.

4.3 Workmanship and Finish — Weighing bottles shall be regular in shape and smoothly finished. They shall be symmetrical about the axis which shall be perpendicular to the plane of the base.

4.3.1 *Base* — The base shall enable the weighing bottles to stand vertically without rocking or spinning on a plane horizontal surface.

4.3.2 *Side* — The side of the weighing bottles shall be slightly tapered near the brim and ground smoothly on the inside for a length equal to the side of the stopper to fit the latter snugly. The edges of the brim shall be fire-polished and shall be in a plane parallel to the base.

4.3.3 *Stopper* — The stopper shall be ground smooth to provide a snug fit. It shall be interchangeable and leak-proof in the case of Grade 1 weighing bottles.

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*Methods for thermal shock tests on glassware.

4.4 Dimensions — Recommended dimensions for glass weighing bottles are given in Table 1 (*see also* Fig. 1 and 2).

TABLE 1 RECOMMENDED DIMENSIONS FOR GLASS WEIGHING BOTTLES

SL No.	TYPE	NOMINAL CAPACITY	HEIGHT OF BOTTLE *A*	DIAMETER OF BOTTLE *B*	HEIGHT OF STOPPER SIDE *C*	DIAMETER OF STOPPER PLUG *D*	HEIGHT OF STOPPER *E*	WALL THICKNESS *F*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		ml	mm	mm	mm	mm	mm	mm
i)	Squat	20	25	50	6	48.6	12	0.7
		40	30	60	8	58.6	15	0.7
		50	35	70	10	73.0	15	1.0
ii)	Tall	5	40	20	10	18.6	12	0 7
		15	50	25	10	23.6	15	0.7
		25	60	30	12	28 6	15	0.7
		40	70	35	12	33.6	15	0.7
		60	80	40	15	38.0	15	1.0

5. PACKING AND MARKING

5.1 Packing — Weighing bottles shall be packed as agreed between the purchaser and the supplier. For this purpose reference may also be made to IS : 6945-1973*.

5.2 Marking — Each package containing weighing bottles shall be legibly marked with the following:

a) Manufacturer's name or his recognized trade-mark, if any; and
b) Nominal capacity, type, grade and number of weighing bottles in the package.

5.2.1 The packages containing weighing bottles may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

6. SAMPLING

6.1 Representative samples of weighing bottles shall be drawn and adjudged as prescribed in IS : 4426-1967† .

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*Code of practice for packaging glass and glassware.

†Methods of sampling laboratory glassware and medical glass instruments.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFNITION
Force	newton	N	1 N = 1 $kg.m/s^2$
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 HZ =c/s (s^{-1})
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m^2

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